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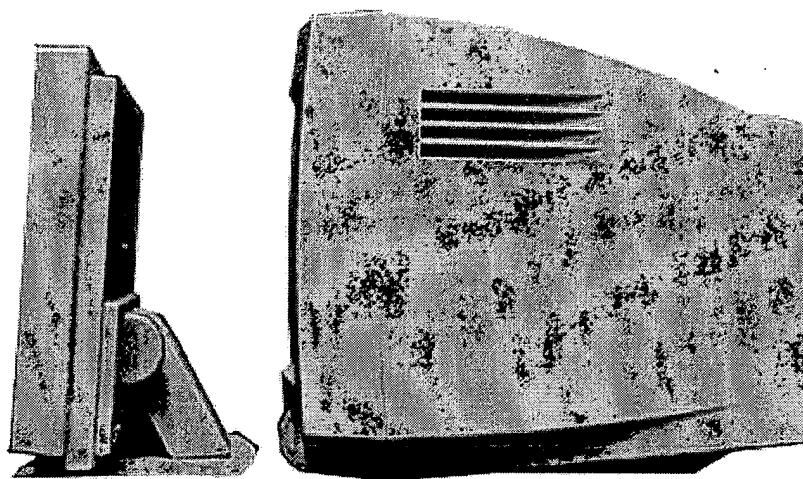
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## ***Comparing Conventional CRT and Flat Panel LCD Monitors***

The two most common types of monitors that are being used today are CRT (Cathode Ray Tube) monitors and LCD (Liquid Crystal Display) monitors. CRT type monitors are the traditional monitors that we have been using for years. LCD type monitors are based on a newer technology and are becoming very popular, mainly because they have great space and energy saving advantages over CRT monitors. CRT and LCD monitors are based on completely different technologies, and thus have quite different display characteristics.

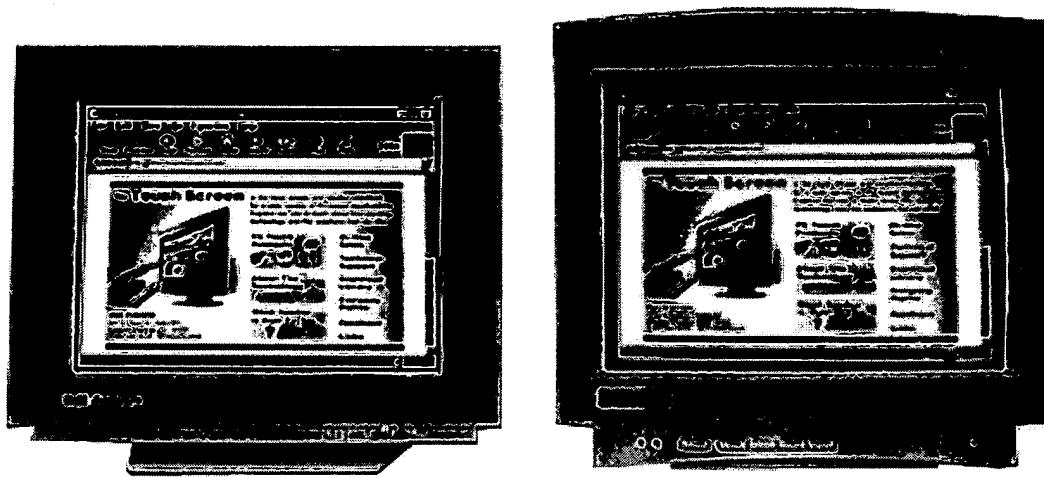
### **Physical Size**

One of the biggest advantages of LCD monitors is that they are compact and lightweight. An LCD monitor is based upon a very thin screen as opposed to the bulky tube of a CRT monitor. This means that not only do they take up less of your desktop space, they can also be used in many places where a larger CRT monitor can not fit. Shown here, a 12.1" LCD monitor with a stand takes up only about one-third of the desk space of a typical 14" CRT monitor.



### **Display Size**

Thanks to advances in LCD technology, color flat panel LCD monitors are now available that are comparable in screen size to traditional CRT monitors. Shown here, a 12.1" LCD display (left) has only a slightly smaller viewing area than a typical 14" CRT monitor. Newer, larger LCD monitors are also appearing that have 15", 17", and even larger screen sizes that are comparable to the largest CRT monitors. One thing to note is that LCD monitors are typically sized by their actual viewable diagonal measurement, but CRTs typically are not. For example, the viewable area on a 17" LCD monitor will typically measure 17" diagonally, but the viewable area on a CRT monitor will typically only measure 16" diagonally.



### Colors

Most CRT monitors are capable of displaying unlimited colors. Some LCD monitors are only capable of hundreds or thousands of colors, but many of the newer LCD's are capable of unlimited colors.

### Resolution

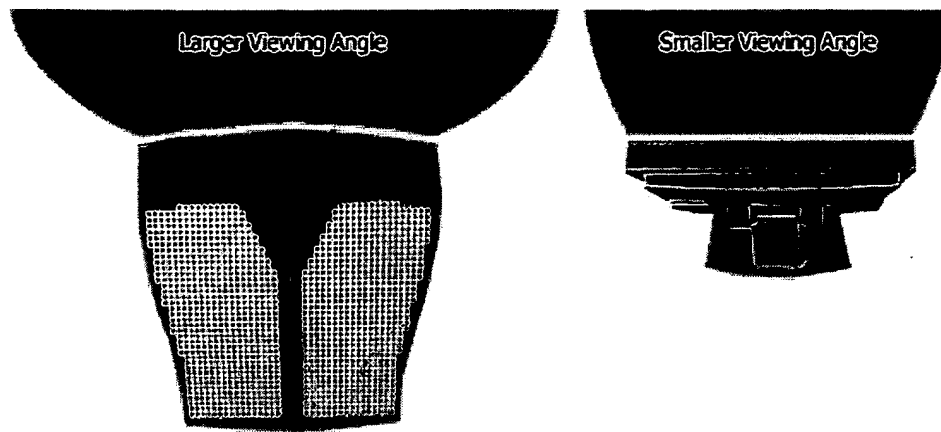
An important issue with LCD monitors is resolution. CRT monitors are usually capable of displaying multiple video resolutions, each with the same quality. LCD monitors, however, usually has what is called a Native resolution, or the resolution that it displays best. The native resolution is generally the highest resolution that the LCD can display and this is the display resolution that will appear the crispest/sharpest.

### Brightness

Typically, brightness is not a concern with CRT monitors. LCD monitors are backlit and have different levels of brightness. The brightness rating for an LCD monitor is commonly referred to as 'nits', and commonly range from 70 to 250 nits. The higher the nits, the brighter the display.

### Viewing Angle

Another issue with the LCD monitor is the viewing angle. A CRT screen can be looked at from a very wide angle, practically from the side, but an LCD monitor typically has a smaller viewing angle, needing to be viewed more directly from the front. From the side, the image on an LCD screen can seem to disappear, or invert colors. Newer displays that are coming out have wider viewing angles so this is not as much of an issue as it has been in the past.



### **Power Consumption and Radiation Emission**

Besides being compact and space saving, LCD displays offer several other benefits. For one, LCD monitors consume much less energy than CRT monitors. This makes the LCD great for laptop and portable computers. Secondly, CRT monitors are known to emit harmful radiation, whereas LCD monitors do not.

### **Price**

CRT monitors are generally more affordable than LCD monitors. In the past LCD monitors have been very expensive but their costs have come down quite a bit in the last 1-2 years. One thing to consider is the up-front cost versus the long-term cost. A CRT monitor will cost less up front but will use more energy than a flat panel monitor. An LCD monitor will cost more up front but will conserve energy in the long run. The energy savings may not be much for an individual user, but if you are looking at a corporate office where 50 displays are in use, the energy savings might be more of an issue.

### **HAPPY LABOR DAY!**

**Our California office will be closed on Monday. Our Colorado office will be closed Thursday, Friday, and Monday. All web site orders will be processed when the Colorado office re-opens on Tuesday. Thanks!**

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